This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (currently amended): An adaptive dynamic wavefront sensor comprising:

a spatial light intensity modulator; and

a lenslet array;

wherein a sub-array of pixels of said spatial light intensity modulator controls illumination of a lenslet of said lenslet array.

Claim 2. (canceled)

Claim 3. (currently amended): The sensor of claim 1 [2] wherein said sub-array operates as a shutter for said lenslet.

Claim 4. (previously amended): The sensor of claim 3 wherein said spatial light intensity modulator selectively illuminates a subset of all lenslets of said lenslet array.

Claim 5. (previously amended): The sensor of claim 4 wherein dynamic range of said sensor is increased via means for allowing each lenslet focus to occupy unambiguously a larger area of a detection device, thereby permitting measurement of a larger wavefront tilt.

Claim 6. (previously amended): The sensor of claim 4 wherein said sensor comprises means for sampling a wavefront at a variable density of points and frequencies to adaptively determine an optimal scan rate and scan configurations.

Claim 7. (previously amended): The sensor of claim 4 wherein said sensor adaptively changes temporal frequency comprises means for adaptively changing temporal frequency to quantify vibration amplitudes and modes.

Claim 8. (previously amended): The sensor of claim 2 wherein said intensity modulator is operated in such a manner as to sensor comprises means for controlling intensity of a focus of said lenslet.

Claim 9. (previously amended): The sensor of claim 8 wherein said sensor comprises means for performing one or more tasks selected from the group consisting of improving signal-to-noise ratio and changing an effective f-number of said lenslet.

Claim 10. (previously amended): The sensor of claim 8 wherein said sensor comprises means for apodizing illumination of said lenslet to control aberration content of a beam from said lenslet.

Claim 11. (currently amended): An adaptive dynamic wavefront sensor comprising:

a polarizer;

pupil relay lenses;

a lenslet array;

a spatial light intensity modulator comprising a sub-array of pixels which control the illumination of a lenslet of said lenslet array;

~~a lenslet array;~~

a CCD camera receiving light from said lenslet array; and

a polarizing beam splitter receiving incoming light from said polarizer on one side and from said spatial light intensity modulator on another side and sending light to said spatial light intensity modulator on one side and to said lenslet array through said pupil relay lenses on another side.

Claim 12. (currently amended): An adaptive dynamic wavefront sensing method comprising the steps of:

receiving light and outputting light with a spatial light intensity modulator; and

providing light output from the spatial light intensity modulator to a lenslet array;

wherein a sub-array of pixels control the illumination of a lenslet of said lenslet array.

Claim 13. (previously amended): The method of claim 12 wherein in the receiving and outputting step a sub-array of pixels of the spatial light intensity modulator controls illumination of a lenslet of the lenslet array.

Claim 14. (original): The method of claim 13 wherein in the receiving and outputting step the sub-array operates as a shutter for the lenslet.

Claim 15. (previously amended): The method of claim 14 wherein in the receiving and outputting step the spatial light intensity modulator selectively illuminates a subset of all lenslets of the lenslet array.

Claim 16. (previously amended): The method of claim 15 additionally comprising the step increasing dynamic range by allowing each lenslet focus to occupy unambiguously a larger area of a detection device, thereby permitting measurement of a larger wavefront tilt.

Claim 17. (original): The method of claim 15 additionally comprising the step of sampling a wavefront at a variable density of points and frequencies to adaptively determine an optimal scan rate and scan configurations.

Claim 18. (original): The method of claim 15 wherein the sensor is adaptively operated such that additionally comprising the step of adaptively changing temporal frequency to quantify vibration amplitudes and modes.

Claim 19. (previously amended): The method of claim 13 wherein the receiving and outputting steps comprise operating the sub-array to control intensity of a focus of the lenslet.

Claim 20. (previously amended): The method of claim 19 wherein the receiving and outputting steps comprise operating the sub-array to perform one or more steps selected from the group consisting of

improving signal-to-noise ratio and changing an effective f-number of the lenslet.

Claim 21. (previously amended): The method of claim 19 wherein the receiving and outputting steps comprise operating the sub-array to apodize illumination of the lenslet to control aberration content of a beam from the lenslet.

Claim 22. (currently amended): An adaptive dynamic wavefront sensing method comprising the steps of:

passing light through a polarizer;

with a polarizing beam splitter, receiving incoming light from the polarizer on one side and from a spatial light intensity modulator on another side and sending light to the spatial light intensity modulator on one side and to a lenslet array through pupil relay lenses on another side; and

receiving light from the lenslet array with a CCD camera;

wherein a sub-array of pixels of said spatial light intensity modulator controls illumination of a lenslet of said lenslet array.